

## **United States Department of Agriculture Natural Resources Conservation Service**

### **Ecological Site Description**

**Site Type:** Rangeland

**Site Name:** Sandy (Sy) 15-17” Northern Plains Precipitation Zone,

**Site ID:** 058BY250WY

**Major Land Resource Area:** 58B – Northern Rolling High Plains

### **Physiographic Features**

This site occurs on nearly level to 50% slopes.

**Landform:** Alluvial fans, hillsides, plateaus, ridges & stream terraces

**Aspect:** N/A

	<u>Minimum</u>	<u>Maximum</u>
<b>Elevation (feet):</b>	3400	4600
<b>Slope (percent):</b>	0	30
<b>Water Table Depth (inches):</b>	None within 60 inches	
<b>Flooding:</b>		
<b>Frequency:</b>	None	None
<b>Duration:</b>	None	None
<b>Ponding:</b>		
<b>Depth (inches):</b>	0	0
<b>Frequency:</b>	None	None
<b>Duration:</b>	None	None
<b>Runoff Class:</b>	negligible	high

### **Climatic features**

Annual precipitation ranges from 15-17 inches per year. Wide fluctuations may occur in yearly precipitation and result in more drought years than those with more than normal precipitation. Temperatures show a wide range between summer and winter and between daily maximums and minimums, due to the high elevation and dry air, which permits rapid incoming and outgoing radiation. Cold air outbreaks from Canada in winter move rapidly from northwest to southeast and account for extreme minimum temperatures. Chinook winds may occur in winter and bring rapid rises in temperature. Extreme storms may occur during the winter, but most severely affect ranch operations during late winter and spring.

Wind speed averages about 8 mph, ranging from 10 mph during the spring to 7 mph during late summer. Daytime winds are generally stronger than nighttime and occasional strong storms may bring brief periods of high winds with gusts to more than 75 mph.

Growth of native cool-season plants begins about April 1 and continues to about July 1. Native warm-season plants begin growth about May 15 and continue to about August 15. Green up of cool season plants may occur in September and October of most years.

The following information is from the “Echeta 2 NW” climate station:

Site Type: Rangeland  
MLRA: 58B – Northern Rolling High Plains

**Sandy 15-17" P.Z.  
R058BY250WY**

Frost-free period (32 °F): 70-142 days; (5 yrs. out of 10, these days will occur between June 7 – September 16)

Freeze-free period (28 °F): 106-154 days; (5 yrs. out of 10, these days will occur between May 14 – September 23)

Mean annual precipitation: 15.82 inches

Mean annual air temperature: 45.2 °F (30.0°F Avg. Min. - 60.4°F Avg. Max.)

For detailed information visit the Natural Resources Conservation Service National Water and Climate Center at <http://www.wcc.nrcs.usda.gov/> website. Other climate station(s) representative of this precipitation zone include: "Recluse 14 NNW".

## Influencing Water Features

<b>Wetland Description:</b>	<b><u>System</u></b>	<b><u>Subsystem</u></b>	<b><u>Class</u></b>	<b><u>Sub-class</u></b>
None	None	None	None	None

**Stream Type:** None

## Representative Soil Features

The soils of this site are moderately deep (greater than 20" to bedrock) to very deep, well-drained soils that formed in alluvium or alluvium over residuum. These soils have moderate, moderately rapid, or rapid permeability. The surface soil will vary from 3 to 6 inches deep and have one of the following textures: fine sandy loam, sandy loam, or loamy very fine sand. Coarser topsoils may be included if underlain by finer textured subsoils. Layers of the soil most influential to the plant community vary from 3 to 6 inches thick.

Major Soil Series correlated to this site include: Arwite, Elwop, Ashollow, Moskee, Hargreave, Julesberg, Pitchdraw and Xema

Other Soil Series correlated in MLRA 58B to this site include: Cedar butte, Soda wells, Pathfinder, Deekay.

**Parent Material Kind:** alluvium, eolian deposits, residuum

**Parent Material Origin:** sandstone, unspecified

**Surface Texture:** fine sandy loam, sandy loam

**Surface Texture Modifier:** none

**Subsurface Texture Group:** sandy loam

**Surface Fragments ≤ 3" (% Cover):** 0

**Surface Fragments > 3" (%Cover):** 0

**Subsurface Fragments ≤ 3" (% Volume):** 0

**Subsurface Fragments > 3" (% Volume):** 0

**Drainage Class:**

**Permeability Class:**

**Depth (inches):**

**Electrical Conductivity (mmhos/cm) ≤20":**

**Sodium Absorption Ratio ≤20":**

### **Minimum**

well drained

moderately rapid

20

0

0

### **Maximum**

excessively well drained

rapid

>60

4

5

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<b>Soil Reaction (1:1 Water) <math>\leq 20''</math>:</b>	6.6	8.4
<b>Soil Reaction (0.1M CaCl<sub>2</sub>) <math>\leq 20''</math>:</b>	NA	NA
<b>Available Water Capacity (inches) <math>\leq 30''</math>:</b>	2	5.1
<b>Calcium Carbonate Equivalent (percent) <math>\leq 20''</math>:</b>	0	5

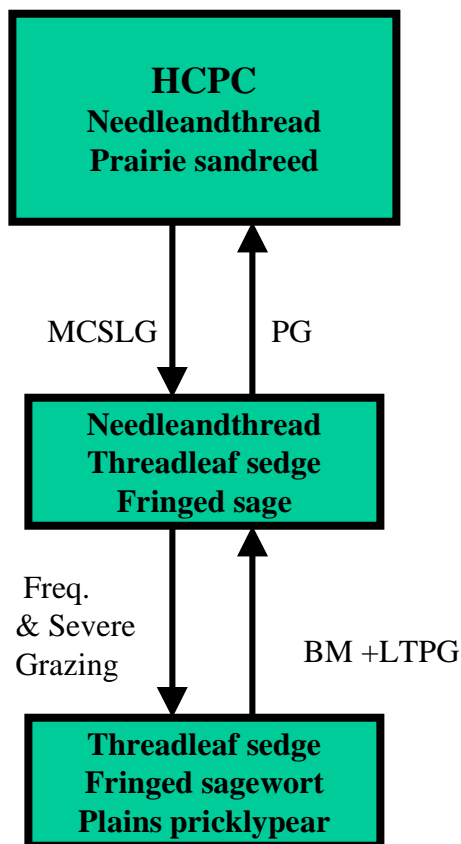
## **Plant Communities**

### **Ecological Dynamics of the Site:**

As this site deteriorates, species such as threadleaf sedge, needleandthread, and silver sagebrush will increase. Mid grasses such as prairie sandreed and Indian ricegrass will decrease in frequency and production.

The Historic Climax Plant Community (description follows the plant community diagram) has been determined by study of rangeland relic areas, or areas protected from excessive disturbance. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures, and historical accounts have also been used.

The following is a State and Transition Model Diagram that illustrates the common plant communities (states) that can occur on the site and the transitions between these communities. The ecological processes will be discussed in more detail in the plant community narratives following the diagram.



**BM** - Brush Management (fire, chemical, mechanical)

**Freq. & Severe Grazing** - Frequent and Severe Utilization of the Cool-season Mid-grasses during the Growing Season

**GLMT** - Grazing Land Mechanical Treatment

**LTPG** - Long-term Prescribed Grazing

**MCSLG** - Moderate, Continuous Season-long Grazing

**NU, NF** - No Use and No Fire

**PG** - Prescribed Grazing (proper stocking rates with adequate recovery periods during the growing season)

**VLTPG** - Very Long-term Prescribed Grazing (could possibly take generations)

**Na** - found adjacent to a saline site

PLANT COMMUNITY DYNAMICS  
REFERENCE PLANT COMMUNITY

COMMON NAME/ GROUP NAME	SCIENTIFIC NAME	SCIENTIFIC SYMBOL	Grp	Allowable Annual Production			% Comp  (MAX.)		
				lbs./acre					
				below normal  1600	normal  2000	above normal  2400			
GRASSES/GRASSLIKES									
Indian ricegrass	Achnatherum hymenoides	ACHY	1	160	200	240	10%		
little bluestem	Schizachyrium scoparium	SCSC	2	160	200	240	10%		
needleandthread	Hesperostipa comata	HECO26	3	400	500	600	25%		
prairie sandreed	Calamovilla longifolia	CALO	4	400	500	600	25%		
MISCELLANEOUS GRASSES/GRASSLIKES*				PPGG	400	500	600	25%	
threadleaf sedge	Carex filifolia	CAFI	5	80	100	120	5%		
needleleaf sedge	Carex duriuscula	CADU6	5	80	100	120	5%		
prairie junegrass	Koeleria macrantha	KOMA	5	80	100	120	5%		
Sandberg bluegrass	Poa secunda	POSE	5	80	100	120	5%		
sand dropseed	Sporobolus cryptandrus	SPCR	5	80	100	120	5%		
thickspike wheatgrass	Elymus lanceolatus	ELLAL	5	80	100	120	5%		
western wheatgrass	Pascopyrum smithii	PASM	5	80	100	120	5%		
hairy grama	Bouteloua hirsuta	BOHI2	5	80	100	120	5%		
blue grama	Bouteloua gracilis	BOGR2	5	80	100	120	5%		
FORBS									
MISCELLANEOUS FORBS*				PPFF	6	240	300	360	15%
American vetch	Vicia americana	VIAM	6	80	100	120	5%		
prairie coneflower	Ratibida columnifera	RACO3	6	80	100	120	5%		
asters	Asters	ASTER	6	80	100	120	5%		
biscuitroots	Lomatium spp.	LOMAT	6	80	100	120	5%		
breadroot scurfpea	Pediomelum esculentum	PEES	6	80	100	120	5%		
western yarrow	Achillea lanulosa	ACHIL	6	80	100	120	5%		
rosy pussytoes	Antennaria rosea	ANRO2	6	80	100	120	5%		
milkvetches	Astragalus	ASTRA	6	80	100	120	5%		
stemless goldenweed	Haplopappus acaulis	HAAC	6	80	100	120	5%		
sulphur flower buckwheat	Eriogonum umbellatum	ERUM	6	80	100	120	5%		
scarlet gaura	Gaura coccinea	GACO5	6	80	100	120	5%		
purple prairie clover	Dalea purpurea	DAPU5	6	80	100	120	5%		
white prairie clover	Dalea candida	DACA7	6	80	100	120	5%		
bluebells	Mertensia	MERTE	6	80	100	120	5%		
wild onion	Allium textile	ALTE	6	80	100	120	5%		
fringed sagewort	Artemisia frigida	ARFR4	6	80	100	120	5%		
hawksbeard	Crepis acuminata	CRAC2	6	80	100	120	5%		
TREES, SHRUBS & HALF-SHRUBS									
MISC. TREES, SHRUBS & HALF-SHRUBS*				7	240	300	360	15%	
green rabbitbrush	Chrysothamnus viscidiflorous	CHVI8	7	80	100	120	5%		
silver sagebrush	Artemisia cana	ARCAC5	7	80	100	120	5%		
western snowberry	Symphoricarpos occidentalis	SYOC	7	80	100	120	5%		
rubber rabbitbrush	Ericameria nauseosa	ERNA10	7	80	100	120	5%		

\* Common native perennials are listed. Other native perennials may also be counted but no species in the group may be counted for more than 5%.

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic factors.

## **Plant Community Narratives**

Following are the narratives for each of the described plant communities. These plant communities may not represent every possibility, but they probably are the most prevalent and repeatable plant communities. The plant composition tables shown above have been developed from the best available knowledge at the time of this revision. As more data is collected, some of these plant communities may be revised or removed, and new ones may be added. None of these plant communities should necessarily be thought of as “Desired Plant Communities”. According to the USDA NRCS National Range and Pasture Handbook, Desired Plant Communities (DPC's) will be determined by the decision-makers and will meet minimum quality criteria established by the NRCS. The main purpose for including any description of a plant community here is to capture the current knowledge and experience at the time of this revision.

### **Needleandthread, Prairie sandreed Plant Community**

The interpretive plant community for this site is the Historic Climax Plant Community. This state evolved with grazing by large herbivores and is well suited for grazing by domestic livestock. Potential vegetation is about 80% grasses or grass-like plants, 10% forbs, and 10% woody plants. The state is a mix of warm and cool season midgrasses. The major grasses include needleandthread, prairie sandreed, little bluestem, and Indian ricegrass. Other grasses occurring on the state include rhizomatous wheatgrasses, Sandberg bluegrass, blue grama, and threadleaf sedge. Silver sagebrush and green rabbitbrush are conspicuous elements of this state, occur in a mosaic pattern, and make up 5 to 10% of the annual production.

The total annual production (air-dry weight) of this state is about 2000 pounds per acre, but it can range from about 1600 lbs./acre in unfavorable years to about 2400 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number:

Growth curve name:

Growth curve description:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	10	25	40	10	5	5	5	0	0

(Monthly percentages of total annual growth)

The state is stable and well adapted to the Northern Great Plains climatic conditions. The diversity in plant species allows for high drought resistance. This is a sustainable plant community (site/soil stability, watershed function, and biologic integrity).

Transitions or pathways leading to other plant communities are as follows:

- Moderate, Continuous Season-Long grazing will convert the plant community to the *Needleandthread/ Threadleaf sedge/ Fringed sagewort Vegetation State*.
- Frequent and Severe grazing will convert the plant community to the *Threadleaf sedge/ Fringed sagewort/ Plains Pricklypear Vegetation State*.

### **Needleandthread/ Threadleaf sedge/ Fringed sage Plant Community**

This plant community is the result of moderate season long grazing. The understory of grass includes needleandthread, threadleaf sedge, and prairie junegrass. Fringed sagewort has increased. When

compared to the Historic Climax Plant Community, prairie sandreed, and Indian ricegrass have decreased. Threadleaf sedge, needleandthread, and fringed sagewort have increased. This community is well suited to grazing by both domestic livestock and wildlife, during the spring, summer and fall.

The total annual production (air-dry weight) of this state is about 1000 pounds per acre, but it can range from about 800 lbs./acre in unfavorable years to about 1200 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number:

Growth curve name:

Growth curve description:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	10	25	40	10	5	5	5	0	0

(Monthly percentages of total annual growth)

The communities' soil, biotic integrity and watershed is intact, although more than normal runoff may occur due to the sod forming vegetation.

Transitional pathways leading to other plant communities are as follows:

- Long-Term Prescribed grazing will return this state to near *Historic Climax Plant Community* condition. The sod forming nature of threadleaf sedge and needleandthread will make the transition to *Historic Climax Plant Community* difficult.
- Frequent and Severe grazing will convert this state to the *Threadleaf sedge/ Fringed sagewort/ Pricklypear Vegetation State*.

#### **Threadleaf sedge/ Fringed sagewort/ Pricklypear Plant Community**

This plant community is the result of frequent and severe grazing. A sod of threadleaf sedge and needleandthread dominates it. Pricklypear cactus can become dense enough so that livestock cannot graze forage growing within the cactus clumps. When the historic climax community is replaced by sod forming communities, grass production is reduced.

The total annual production (air-dry weight) of this state is about 800 pounds per acre, but it can range from about 600 lbs./acre in unfavorable years to about 1000 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:

Growth curve number:

Growth curve name:

Growth curve description:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	10	25	40	10	5	5	5	0	0

(Monthly percentages of total annual growth)

The soil is generally well protected on this state. The biotic integrity may be reduced due to low vegetative production. The sod formed by these grasses is resistant to water infiltration. While this sod protects the state, off-site areas are affected by excessive runoff that may cause gully erosion.

This sod is resistant to change and may require practices such as long-term proper grazing use to return to a mid grass community.

Transitional pathways leading to other plant communities are as follows:

- Long-term Prescribed grazing with fringed sagewort control will return this plant community to near *Historic Climax Plant Community*.

## **Ecological Site Interpretations**

### **Animal Community – Wildlife Interpretations**

**Historic Climax Plant Community:** The predominance of grasses in this plant community favors grazers and mixed-feeders, such as bison, elk, and antelope. Suitable thermal and escape cover for deer may be limited due to the low quantities of woody plants. However, topographical variations could provide some escape cover. When found adjacent to sagebrush dominated states, this plant community may provide brood rearing/foraging areas for sage grouse, as well as lek sites. Other birds that would frequent this plant community include Western meadowlarks, horned larks, and golden eagles. Many grassland obligate small mammals would occur here.

**Needleandthread/ Threadleaf sedge/Fringed sagewort:** These communities provide foraging for antelope and other grazers. They may be used as a foraging site by sage grouse if proximal to woody cover.

**Threadleaf sedge/Fringed sagewort/Pricklypear:** These communities provide limited grazing to antelope and other herbivores due to low production. They may be used as a foraging site by sage grouse if proximal to woody cover.



# Animal Preferences (Quarterly - 1,2,3,4) for commonly occurring plants in MLRA 58B, 15-17 inch Northern Plains

COMMON NAME/	SCIENTIFIC NAME	SCI. SYMBOL	Cattle	Sheep	Horses	Mule Deer	Antelope
<b>GRASSES/GRASSLIKES</b>							
alkali bluegrass	Poa secunda ssp. juncofolia	POSEJ	DDDD	PPPP	DDDD	PPPP	PPPP
alkali cordgrass	Spartina gracilis	SPGR	DDDD	UUUU	DDDD	UUUU	UUUU
alkali sacaton	Sporobolus airoides	SPA1	PPPP	DDDD	PPPP	DDDD	DDDD
Baltic rush	Juncus balticus	JUBA	DDDD	UUUU	DDDD	UUUU	UUUU
basin wildrye	Leymus cinereus	LEC4	PPPP	PPPP	PPPP	DDDD	DDDD
bearded wheatgrass	Elymus caninus	ELCA	PPPP	DDDD	PPPP	DDDD	DDDD
big bluestem	Andropogon gerardii	ANGE	PPPP	PPPP	PPPP	DDDD	DDDD
blue grama	Bouteloua gracilis	BOGR2	DDDD	DDDD	DDDD	DDDD	DDDD
bluebunch wheatgrass	Pseudoroegneria spicata	PSSP6	PPPP	PPPP	PPPP	DDDD	DDDD
bluejoint reedgrass	Calamagrostis canadensis	CACA4	PPPP	DDDD	PPPP	UUUU	UUUU
bottlebrush squirreltail	Elymus elymoides	ELELE	DDDD	DDDD	DDDD	UUUU	UUUU
buffalograss	Buchloe dactyloides	BUDA	DDDD	DDDD	DDDD	DDDD	DDDD
Canada wildrye	Elymus canadensis	ELCA4	PPPP	PPPP	PPPP	DDDD	DDDD
Canby bluegrass	Poa canbyi (syn. to Poa secunda)	POCA (POSE)	PPPP	PPPP	PPPP	PPPP	PPPP
Cusick's bluegrass	Poa cusickii	POCU3	PPPP	PPPP	PPPP	PPPP	PPPP
Fendler threeawn	Aristida purpurea	ARPUL	UUUU	UUUU	UUUU	UUUU	UUUU
green needlegrass	Nassella viridula	NAV14	PPPP	PPPP	PPPP	PPPP	PPPP
hairy grama	Bouteloua hirsuta	BOH12	DDDD	DDDD	DDDD	DDDD	DDDD
Indian ricegrass	Achnatherum hymenoides	ACHY	PPPP	PPPP	PPPP	PPPP	PPPP
inland saltgrass	Distichlis spicata	DISP	UUUU	UUUU	UUUU	UUUU	UUUU
inland sedge	Carex interior	CAIN11	DDDD	DDDD	DDDD	UUUU	UUUU
little bluestem	Schizachyrium scoparium	SCSC	PPPP	PPPP	PPPP	DDDD	DDDD
mat muhly	Muhlenbergia richardsonis	MURI	UUUU	UUUU	UUUU	UUUU	UUUU
Nebraska sedge	Carex nebraskensis	CANE2	PPPP	PPPP	PPPP	DDDD	DDDD
needleandthread	Hesperostipa comata	HECO26	PPPP	PPPP	PPPP	PPPP	PPPP
needleleaf sedge	Carex duriviscula	CADU6	UUUU	UUUU	UUUU	UUUU	UUUU
northern reedgrass	Calamagrostis stricta	CAST13	PPPP	DDDD	PPPP	UUUU	UUUU
Nuttall's alkaligrass	Puccinellia nuttalliana	PUNU2	PPPP	PPPP	PPPP	PPPP	PPPP
plains muhly	Muhlenbergia cuspidata	MUCU3	DDDD	DDDD	DDDD	UUUU	UUUU
plains reedgrass	Calamagrostis montanensis	CAMO	DDDD	DDDD	DDDD	DDDD	DDDD
prairie cordgrass	Spartina pectinata	SPPE	PPPP	DDDD	PPPP	UUUU	UUUU
prairie junegrass	Koeleria macrantha	KOMA	DDDD	DDDD	DDDD	DDDD	DDDD
prairie sandreed	Calamovilfa longifolia	CALO	PPPP	DDDD	PPPP	UUUU	UUUU
sand bluestem	Andropogon halli	ANHA	PPPP	DDDD	PPPP	UUUU	UUUU
sand dropseed	Sporobolus cryptandrus	SPCR	DDDD	DDDD	DDDD	UUUU	UUUU
Sandberg bluegrass	Poa secunda	POSE	DDDD	DDDD	DDDD	DDDD	DDDD
sideoats grama	Bouteloua curtipendula	BOCU	PPPP	PPPP	PPPP	DDDD	UUUU
slender wheatgrass	Elymus trachycaulus	ELTR7	PPPP	DDDD	PPPP	DDDD	DDDD
spike sedge	Carex nardina	CANA2	DDDD	DDDD	DDDD	UUUU	UUUU
sun sedge	Carex inops ssp. heliophila	CAINH2	PPPP	DDDD	PPPP	UUUU	UUUU
thickspike wheatgrass	Elymus lanceolatus	ELLAL	DDDD	DDDD	DDDD	DDDD	DDDD
threadleaf sedge	Carex filifolia	CAFI	DDDD	DDDD	DDDD	DDDD	PPPP
tufted hairgrass	Deschampsia caespitosa	DECA18	PPPP	PPPP	PPPP	DDDD	DDDD
western wheatgrass	Pascopyrum smithii	PASM	DDDD	DDDD	DDDD	DDDD	DDDD
<b>FORBS</b>							
American licorice	Glycyrrhiza lepidota	GLLE3	UUUU	UUUU	UUUU	UUUU	UUUU
American vetch	Vicia americana	VIAM	PPPP	PPPP	PPPP	PPPP	PPPP
arrowgrass	Triglochin spp.	TRIGL	T	T	T	T	T
asters	Asters	ASTER	UUUU	UUUU	UUUU	UUUU	UUUU
biscuitroots	Lomatium spp.	LOMAT	DDDD	DDDD	UUUU	DDDD	DDDD
bluebells	Mertensia	MERTE	DDDD	PPPP	DDDD	DDDD	DDDD
blue-eyed grass	Sisyrinchium spp.	SISYR	DDDD	PPPP	DDDD	DDDD	DDDD
breadroot scurfpea	Pedimelum esculentum	PEES	DDDD	DDDD	DDDD	DDDD	DDDD
cattail, broad-leaf	Typha latifolia	TYLA	DDDD	UUUU	DDDD	UUUU	UUUU
cattail, narrow-leaf	Typha angustifolia	TYAN	DDDD	UUUU	DDDD	UUUU	UUUU
fringed sawwort	Artemisia frigida	ARFR4	UUUU	UUUU	UUUU	UUUU	UUUU
green sawwort	Artemisia dracuncululus	ARDR4	UUUU	UUUU	UUUU	UUUU	UUUU
hawksbeard	Crepis acuminata	CRAC2	UUUU	PPPP	UUUU	DDDD	DDDD
horsetails	Equisetum spp.	EQUIS	UUUU	UUUU	UUUU	UUUU	UUUU
iris	Iris spp.	IRIS	UUUU	UUUU	UUUU	UUUU	UUUU
milkvetches	Astragalus	ASTRA	DDDD	DDDD	DDDD	DDDD	DDDD
poison hemlock	Conium maculatum	COMA2	T	T	T	T	T
prairie coneflower	Ratibida columnifera	RACO3	DDDD	PPPP	DDDD	PPPP	PPPP
prairie thermopsis	Thermopsis rhombifolia	THRHA	UUUU	UUUU	UUUU	UUUU	UUUU
purple prairie clover	Dalea purpurea	DAPU5	PPPP	PPPP	PPPP	PPPP	PPPP
Pursh seepweed	Suaeda calceoliformis	SUCA2	UUUU	UUUU	UUUU	UUUU	UUUU
rosy pussytoes	Antennaria rosea	ANRO2	UUUU	UUUU	UUUU	UUUU	UUUU
scarlet gaura	Gaura coccinea	GACO5	UUUU	UUUU	UUUU	UUUU	UUUU
stemless goldenweed	Haplopappus acaulis	HAAC	UUUU	UUUU	UUUU	UUUU	UUUU
sulphur flower buckwheat	Eriogonum umbellatum	ERUM	UUUU	UUUU	UUUU	UUUU	UUUU
twogrooved milkvetch	Astragalus bisulcatus	ASBI2	T	T	T	T	T
water hemlocks	Cicuta spp.	CICUT	T	T	T	T	T
western yarrow	Achillea lanulosa	ACHIL	UUUU	UUUU	UUUU	UUUU	UUUU
white prairie clover	Dalea candida	DACA7	PPPP	PPPP	PPPP	PPPP	PPPP
wild onion	Allium textile	ALTE	DDDD	DDDD	DDDD	DDDD	DDDD
woodyaster	Xylorhiza spp.	XYLOR	T	T	T	T	T
<b>TREES, SHRUBS &amp; HALF-SHRUBS</b>							
big sagebrush	Artemisia tridentata	ARTR2	UUUU	DDDD	UUUU	DDDD	DDDD
birdfoot sagebrush	Artemisia pedatifida	ARPE6	UUUU	UUUU	UUUU	UUUU	UUUU
black greasewood	Sarcobatus vermiculatus	SAVE4	DDDD	DDDD	UUUU	DDDD	DDDD
bur oak	Quercus macrocarpa	QUMA2	UUUU	DDDD	UUUU	PPPP	DDDD
fourwing saltbush	Atriplex canescens	ATCA2	PPPP	PPPP	PPPP	PPPP	PPPP
Gardners saltbush	Atriplex gardneri	ATGA	PPPP	PPPP	DDDD	PPPP	PPPP
green rabbitbrush	Chrysothamnus viscidiflorous	CHVI8	DDDD	DDDD	DDDD	DDDD	DDDD
junipers	Juniperus scopulorum	JUSC2	UUUU	UUUU	UUUU	DDDD	UUUU
leadplant	Amorpha canescens	AMCA6	PPPP	PPPP	PPPP	PPPP	PPPP
plains cottonwood (sprouts)	Populus deltoides	PODEM	DDDD	DDDD	DDDD	DDDD	DDDD
ponderosa pine (abortion in cattle)	Pinus ponderosa	PIPO	UUUU	UUUU	UUUU	UUUU	UUUU
rubber rabbitbrush	Ericameria nauseosa	ERNA10	UUUU	DDDD	UUUU	DDDD	DDDD
silver sagebrush	Artemisia cana	ARCA5	DDDD	DDDD	DDDD	PPPP	PPPP
silverberry	Eleagnus commutata	ELCO	UUUU	UUUU	UUUU	DDDD	UUUU
skunkbush sumac	Rhus trilobata	RHTR	DDDD	DDDD	DDDD	DDDD	DDDD
western snowberry	Symphoricarpos occidentalis	SYOC	UUUU	UUUU	UUUU	DDDD	UUUU
wildrose	Rosa woodsii var. woodsii	ROWOW	DDDD	DDDD	UUUU	DDDD	DDDD
willows	Salix L.	SALIX	PPPP	PPPP	DDDD	PPPP	UUUU
winterfat	Krascheninnikovia lanata	KRLA2	PPPP	PPPP	PPPP	PPPP	PPPP
yucca	Yucca glauca	YUGL	DDDD	DDDD	DDDD	DDDD	DDDD

N = not used; U = undesirable; D = desirable; P = preferred; T = toxic

## **Animal Community – Grazing Interpretations**

The following table lists suggested stocking rates for cattle under continuous season-long grazing under normal growing conditions. These are conservative estimates that should be used only as guidelines in the initial stages of the conservation planning process. Often, the current plant composition does not entirely match any particular plant community (as described in this ecological site description). Because of this, a field visit is recommended, in all cases, to document plant composition and production. More precise carrying capacity estimates should eventually be calculated using this information along with animal preference data, particularly when grazers other than cattle are involved. Under more intensive grazing management, improved harvest efficiencies can result in an increased carrying capacity. If distribution problems occur, stocking rates must be reduced to maintain plant health and vigor.

<b>Plant Community</b>	<b>Production (lb./ac)</b>	<b>Carrying Capacity* (AUM/ac)</b>
Historic Climax Plant Community	1600-2400	.5
Needleandthread/ Threadleaf sedge/Fringed sagewort	800-1200	.4
Threadleaf sedge/Fringed sagewort/Pricklypear	600-1000	.25

\* - Continuous, season-long grazing by cattle under average growing conditions.

Grazing by domestic livestock is one of the major income-producing industries in the area. Rangeland in this area may provide yearlong forage for cattle, sheep, or horses. During the dormant period, the forage for livestock use needs to be supplemented with protein because the quality does not meet minimum livestock requirements.

## **Hydrology Functions**

Water is the principal factor limiting forage production on this site. This site is dominated by soils in hydrologic group B, with localized areas in hydrologic group C. Infiltration potential for this site varies from moderately rapid to rapid depending on soil hydrologic group and ground cover. Runoff varies from low to moderate. In many cases, areas with greater than 75% ground cover have the greatest potential for high infiltration and lower runoff. An example of an exception would be where short-grasses form a strong sod and dominate the site. Areas where ground cover is less than 50% have the greatest potential to have reduced infiltration and higher runoff (refer to Part 630, NRCS National Engineering Handbook for detailed hydrology information).

Rills and gullies should not typically be present. Water flow patterns should be barely distinguishable if at all present. Pedestals are only slightly present in association with bunchgrasses. Litter typically falls in place, and signs of movement are not common. Chemical and physical crusts are rare to non-existent. Cryptogamic crusts are present, but only cover 1-2% of the soil surface.

## **Recreational Uses**

This site provides hunting opportunities for upland game species. The wide variety of plants which bloom from spring until fall have an esthetic value that appeals to visitors.

Site Type: Rangeland  
MLRA: 58B – Northern Rolling High Plains

**Sandy 15-17” P.Z.  
R058BY250WY**

## Wood Products

No appreciable wood products are present on the site.

## Other Products

None noted.

## Supporting Information

### Associated Sites

Shallow Sandy                      058BY266WY

### Similar Sites

() – Sandy 10-14” Northern Plains P.Z.                      058BY150WY  
[Lower production]

## Inventory Data References (narrative)

Information presented here has been derived from NRCS clipping data and other inventory data. Field observations from range trained personnel was also used. Those involved in developing this site include: Glen Mitchell, Range Management Specialist, NRCS; Chuck Ring, Range Management Specialist, NRCS; and Everet Bainter, Range Management Specialist. Other sources used as references include: USDA NRCS Water and Climate Center, USDA NRCS National Range and Pasture Handbook, and USDA NRCS Soil Surveys from various counties.

## Inventory Data References

<u>Data Source</u>	<u>Number of Records</u>	<u>Sample Period</u>	<u>State</u>	<u>County</u>
SCS-RANGE-417		1971-1994	WY	Campbell & others
Ocular estimates		1990-1999	WY	Campbell & others

## State Correlation

This site occurs entirely within Wyoming.

## Type Locality

## Field Offices

Gillette, Lusk, Newcastle, Sundance

Site Type: Rangeland  
MLRA: 58B – Northern Rolling High Plains

**Sandy 15-17” P.Z.  
R058BY250WY**

## **Relationship to Other Established Classifications**

## **Other References**

## **Site Description Approval**

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State Range Management Specialist

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Date

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